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EXAMINER

GIANOLA, JOHN F

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,446

Applicant(s)

MUSOLL, ENRIQUE

Examiner

John F Gianola

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20010822</u> . | 6) <input type="checkbox"/> Other: _____ |

1. Claims 1-24 have been examined.
2. Claims 1-14 have been rejected.

Claim Rejections - 35 USC § 112

3. Claim 5 objected to because of the following informalities: Claim 5 contains an improper dependency: "The system of Claim 5..." For this office action it is assumed that Claim 5 is dependent upon Claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 4, 6, 9, 10-12, 14, 15, 17, 18, and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirata et. al. "Communication Protocol for Prediction Communication Frame Type in High-Speed Processing System" (US. Pat. No. 5,056,058).

6. With regards to Claim 1, Hirata et al. disclose:

At least one import port for receiving data packets (see column 3, lines 65-68);

At least one output port for sending out data packets (see column 3, lines 65-68);

A processor for processing packet data (see column 3, lines 60-61); and
A packet predictor for predicting a future packet based on a received packet,
such that at least some processing for the predicted packet may be
accomplished before the predicted packet actually arrives at the system
(see column 4, lines 46-50 and column 5, lines 55-62)

7. With respect to Claims 3 and 4, Hirata et. al. disclose prediction based upon the last packet received, updated with every packet reception. Thus Hirata et. al. disclose:

Wherein the packet predictor mechanism utilizes a history record periodically updated by the system, to generate predicted data and wherein the history record comprises characteristics of recently received data packets (see column 5, lines 46-51 and column 7, lines 30-36).

8. With respect to Claim 9, Hirata et. al. disclose:

An input for receiving information about a first packet received for processing
(see column 3, lines 65-68);

A predictor for predicting characteristics of a packet to arrive at a later time,
based upon the information received about the first packet; and

An output for providing the predicted characteristics to the processor for processing ahead of arrival of a real packet fulfilling the prediction (see column 5, lines 46-62).

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9. With regards to Claims 6, 15 and 21, Hirata et. al. disclose:

Wherein packet prediction comprises predicting specific characteristics,
comprising one or more of packet type, packet flow identification, sender
information, destination information, and packet size (see Figure 7 and
column 5, lines 46-62).

10. With respect to Claims 11, 12, and 14, Hirata et. al. disclose prediction based
upon the last packet received, updated with every packet reception (see column 5, lines
46-51). Thus Hirata et. al. disclose:

A history record consulted each time a prediction is made.

The history record comprises history of real packets received and processed.

The history record is stored in a memory accessible to the mechanism.

11. With respect to Claim 17, Hirata et. al. disclose:

Speculatively predicting characteristics of packets yet to arrive for processing,

based on packets actually received for processing; and

Accomplishing speculative processing on the predicted characteristics (see

column 5, lines 46-62).

12. With respect to Claim 18, Hirata et. al. disclose:

The packet processor is coupled with a data packet network (see column 3, line

57 to column 4, line 7).

13. With regards to Claim 22, Hirata et. al. disclose:

The speculative processing is abandoned if it is determined not to agree with the real data once it arrives (see Figure 9 and column 7, lines 44-46).

14. With respect to Claim 23, Hirata et. al. disclose:

Wherein speculative processing is accomplished only on selected predicted characteristics of the predicted data packet (see column 5, lines 46-62).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claims 2, 7, 8, 10, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirata et. al.

18. As to Claims 2, 10, and 19, Hirata et. al. teach the limitations of Claims 1, 9, and 18 as noted above. And while et. al. describe a protocol on an information communication network system (see column 3, line 51), et. al. do not specifically disclose the Internet network. Official Notice is taken that the Internet is an information communication network system. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the invention of Hirata et. al. on the Internet network in order to increase the speed of communication on the Internet.

19. As to Claim 7, Hirata et. al. teach the limitations of Claim 1 as noted above. Hirata et. al. disclose the use of a protocol on communication control equipment (see column 3, line 55), but not specifically a packet router. Official Notice is taken that a packet router is equipment that transmits and receives messages on a network. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the invention of Hirata et. al. on a router in order to increase the speed of messages in a network.

20. As to Claims 8 and 16, Hirata et. al. disclose the limitations of Claims 1 and 7 as noted above. Hirata et. al. teach the use of their invention on communication control

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equipment that they describe as having a medium access controller, memory for storing programs and data, and a local processor (see column 3, line 65 to column 4 line 6), but do not expressly mention a data server. Official Notice is taken that a server is a computer running administrative software that controls access to the network and its resources; a file server may contain an archive of data or program files. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the invention of Hirata et. al. on a data server in order to increase the speed of communication with the data server.

21. Claims 5, 13, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirata et. al. in view of Hariharasubrahmanian "Systems and Methods for Prediction Fields in a Data Packet" (PCT WO 01/11834 A1).

22. Hirata et. al. teach the limitations in Claims 4, 11, 15, and 21 as noted above, but do not disclose a record of the results of past predictions or retaining correct predictions. Hariharasubrahmanian, however, teaches predicting the fields of incoming packets while maintaining a record of past predictions and using that record to improve processing of predicted packets (see Hariharasubrahmanian: page 11, paragraph 1). It would have been obvious to one of ordinary skill in the art to combine the invention of Hirata et. al. with Hariharasubrahmanian in order to increase the efficiency of a network system.

Conclusion


23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes: Auerbach et. al. "Method and Apparatus for Batching the Receipt of Data Packets" (US Pat. No. 5,260,942).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F Gianola whose telephone number is (571)272-3848. The examiner can normally be reached on Mon - Fri (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jfg


JACK B. HARVEY
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